

2. *PALUDOMUS PYRIFORMIS*. *Testa solidiuscula, pyriformis, læte olivacea, striis viridibus brunneisque ornata, decussata; sutura striis aliquot valde impressis circumdata; anfractus 4 convexiusculi, ultimus $\frac{2}{3}$ spiræ subæquans; apertura oblonga, margine columellari arcuato albido, striis pelliculis.*
 Long. 21, lat. 15; apert. long. 15, lat. $9\frac{1}{2}$ mill.

3. *PALUDOMUS (TANALIA) TORRENTICOLA*. *Testa oblongo-ovata, nigricanti-olivacea, obscure fulgurata et maculata, spiraliter confertim, longitudinaliter rarius striata; spira exserta; anfractus convexi; sutura simplex; apertura ovalis, violacea, margine columellari albo.*

Long. 22, lat. 16; apert. long. 16, lat. 12 mill.

These species are inhabitants of mountain-streams in Ceylon. The specimens which I have got for description being without opercula, I cannot bring them with surety into Mr. Layard's well-established genera of this family.

Zurich, July 1858.

A communication was also read from Surgeon G. C. Wallich, M.D., II. M. Indian Army, describing a new preservative process, the details of which were obtained at Cairo from an Egyptian, by the late Major Sir George Parker of the Bengal Army, and were communicated to Dr. Wallich by that officer at Cawnpore, shortly before the mutinous outbreak, in the course of which the Major's life fell a sacrifice.

November 23, 1858.

Dr. Gray, V.P., F.R.S., in the Chair.

The following papers were read:—

1. NOTICE OF FIVE SPECIES OF BATS IN THE COLLECTION OF L. L. DILLWYN, ESQ., M.P.; COLLECTED IN LABUAN BY MR. JAMES MOTLEY. BY ROBERT F. TOMES.

1. *PTEROPUS HYPOMELANUS*, Temm. Esquiss. Zool. i. p. 61, 1853.

Although the specimen of *Pteropus* included in the collection forwarded to me for examination differs very materially in colour from the ordinary examples of the above species, the distribution of the colours themselves, and the quality and quantity of the fur, together with an absolute similarity in all other respects, including that of size, leave no doubt as to its identity with that species. In colour it more nearly resembles some of the examples of *P. funereus*, a

species, to which it cannot be referred, as it differs greatly, among other respects, in the form and size of its ears*.

Instead of the usual light rufous on the nape and shoulders observable in the ordinary examples of *P. hypomelanus*, the specimen from Labuan has these parts of a purplish-brown, strongly tinged with claret-colour; the fur of the back is also darker; and the under parts, instead of being light reddish-brown, have the same dark-purplish colour as the back of the neck, but less bright.

I have compared the specimen with others from Ternate and from Macassar, the latter having been collected by Mr. Wallace. The comparatively short and rounded ears will at once distinguish the dark variety of this species from *P. funereus*, in which they are longer and more pointed.

2. *PACHYSOMA BREVICAUDATUM*, Is. Geoff.—*Vesp. marginatus*, Hamilton?—*Pteropus marginatus*, Horsf.—*Pt. marginatus*, *Pachysoma marginatum*, and *Pachysoma brevicaudatum*, Temm.—*Cynopterus marginatus* and *C. horsfieldii*, Gray.

Of this species two specimens appear in the collection, both having the bright-rufous hair on the sides of the neck which characterizes the variety which has been called by Dr. Gray *Cynopterus Horsfieldii*. This vivid colouring occurs most frequently in the Ceylon specimens. After comparing a considerable number from various localities, with the type specimens of *P. brevicaudatum* in the Paris Museum, I have arrived at the conclusion that all the above species, given as synonyms, are referable to it.

3. *PHYLLORRHINA LABUANENSIS*, n. s.

I have hitherto seen but one specimen of Horse-shoe Bat resembling the one from Labuan; and that was obtained at Sarawak by Mr. Wallace. Amongst all the descriptions of Asiatic *Rhinolophidae* which I have been able to examine, I have not hitherto met with one which applies to this species; and I therefore regard it as new, and describe it as follows:—

Facial crests, so far as can be ascertained from the inspection of dried specimens, very much like those of *Phyllorrhina speoris*. Upper incisors rather broad and almost contiguous; in *P. speoris* they are narrow, and have a considerable central opening. Lower incisors small, very regular, and trilobed; canines, above and below, rather long and slender. Ears of medium size, as broad as high, pointed, and the outer margin very faintly hollowed out towards the tip.

The wings are rather long and narrow, the fourth finger not exceeding in length the two basal phalanges of the longest finger. Thumb short, more than half enveloped in membrane.

* All the examples of *P. funereus* which I have examined have had the unworn teeth of young individuals, and moreover exhibited further indications of immaturity, in the broad and flattened longitudinal crest of the cranium: in older examples this becomes prominent and acute. I regard the *P. funereus* as the young of *P. edulis*.

Fur of the upper parts tricoloured, dusky-grey at the base, succeeded by yellowish-brown, and this again by darkish umber-brown, with the extreme tips a little paler. Beneath, the fur is faintly bicoloured, lightish brown at the base, with the tips of the hairs rather paler.

The specimen in my own collection from Sarawak differs in having the colours much more vivid. Fur of the upper parts bright cinnamon-brown for two-thirds of its length, succeeded by bright rufous of a somewhat darker hue, with the extreme tips of the hairs a little paler, when viewed in some lights, a slightly hoary appearance. Beneath, the fur is lightish rufous, a little darker at the root than at the tip. Membranes rather dark and shining.

The following are the dimensions of these specimens:—

	Labuan.		Sarawak.	
	"	"	"	"
Length of the head and body, about ..	2	3	2	2
— of the tail	0	10 $\frac{1}{2}$		
— of the head	0	9 $\frac{1}{2}$	0	9 $\frac{1}{2}$
— of the ears	0	5	0	5 $\frac{1}{2}$
Breadth of the ears	0	5 $\frac{1}{2}$	0	6
Length of the fore-arm	1	10	1	9 $\frac{1}{2}$
— of the longest finger	2	10	2	7
— of the fourth finger	2	1	1	11
— of the thumb and claw	0	3	0	3
— of the tibia	0	8 $\frac{1}{2}$	0	8
— of the foot and claws	0	4	0	4
Expanse of wings	12	0	11	8

Obs.—The species to which this is most nearly affined is the *Phyllorrhina speoris*; but it may be readily distinguished by the following points of difference:—*P. speoris* is constantly somewhat larger than the present species, and has the head, but more especially the canine teeth, considerably larger. The tibiæ, too, are not only longer in actual measure, but also longer in relation to the size of the animal, in *P. speoris*, than in the present species. Again, in *P. speoris* the free portion of the thumb is longer than the enclosed part, whilst in the present species the enclosed portion is the longer. To these differences may be added, that the membranes are much less translucent, but more shining, in the Labuan species than in *P. speoris*.

4. SCOTOPHILUS NITIDUS, n. s.

In M. Temminck's monograph of the genus *Vespertilio*, several small Asiatic species are described which are affined to the common Pipistrelle Bat of Europe, and appertaining to the genus *Scotophilus*. They are mostly smaller than that species, but are characterized by the same subgeneric forms. The following are the species alluded to:—*Vesp. brachypterus*, *V. pachypus*, *V. abramus*, and *V. Akokomuli**.

* I do not include the *V. tralatitius* of the same author, because it has been shown by Dr. Gray to be quite a distinct species from the original *V. tralatitius*

To these may be added the *V. coromandelicus*, F. Cuv., one of the smallest Bats known; and the species I am about to describe must be placed in the same list.

In size it is one of the smallest, appearing but little larger than the *V. coromandelicus*; but on closer examination, is found to be considerably the larger of the two, the slenderness of the bones of the limbs tending to give it an unsubstantial and small appearance.

The head is somewhat more elevated, and the muzzle rather less obtuse than in *S. lobatus* or *S. coromandelicus*; but the ears and tragi are shaped precisely as in those species: viz. the ears are small and ovoid, with the ends rounded, and with scarcely a perceptible emargination at their outer margin; and the tragus is short, of nearly uniform breadth, curved inwards, and round at the end. As in the other species of this group, the wing membranes spring from the base of the toes; and these latter constitute one-half the entire length of the foot. The free portion of the thumb is somewhat longer than that which is enclosed in the membrane. The tip of the tail is free. The bones of the wings and legs are more slender in relation to their length than those of its congeners; and the tibiæ are rather longer relatively.

The fur does not anywhere encroach on the membranes, either above or beneath, but is strictly confined to the body; it is of medium length, and thick and silky. That of the upper parts is uncoloured, dark chestnut-brown, without variation of tint on the different parts of the body; beneath bicoloured, dark brown at the base, tipped for a third of its length with reddish-brown, a little paler on the pubes.

Such is the colour of the specimens from Labuan; but two others in my own collection, obtained by Mr. Wallace at Sarawak, have all the upper parts of a dark shining brown, with scarcely a tinge of chestnut; and the under parts have the fur tipped with greyish-brown instead of rufous.

The cranium, in its general conformation, closely resembles that of the *Pipistrelle*, but has the facial portion a little broader. As in that species, there is a rudimentary premolar, immediately behind the upper canine, and placed in a line with the other teeth, so as to be visible from the outside. In *S. tralatitius* the second premolar is contiguous to the canine, and the first or rudimentary one is placed in the angle formed by the two, and is only seen from the inside. But the greatest peculiarity exists in the form and arrangement of

of Dr. Horsfield. It is in fact a true *Vespertilio*, bearing a great resemblance to the *V. mystacinus* of Europe. *V. tenuis*, according to M. Temminck, is so closely affined to it, as to be with difficulty distinguished from it; and we are therefore led to believe that this is a true *Vespertilio* also. The so-called *V. imbricatus* of Temminck answers well to the true *V. tralatitius*, and is, I have no doubt, referable to that species. Of the *V. imbricatus* of Dr. Horsfield I have as yet seen but one example, the type specimen in the Museum at the India House. *V. brachypterus* is most likely the young of *V. tralatitius* of Horsfield. *V. pachypus* is probably a good species; and the same may be said of *V. Akokomili*; but M. Temminck's description and figures of *V. abramus* apply so exactly to the *Scotophilus lobatus* of Gray, that it will probably have to be quoted as a synonym of the latter species.

the upper incisors. In the generality of species appertaining to this group, they are arranged in pairs, with a considerable central opening, and the two inner ones somewhat longer than the outer, and more or less in advance of them; but in the present species, the outer ones, adjoining the canines, are more in advance than the inner ones, and are merely rudimentary. The curve which is made by the row of upper incisors has, by this arrangement, its concave surface directed forwards instead of backwards, as in other species.

The number of the teeth may be thus given:—

In. $\frac{2-2}{6}$; Can. $\frac{1-1}{1-1}$; Prem. $\frac{2-2}{2-2}$; Mol. $\frac{3-3}{3-3} = \frac{16}{18}$.

	Labuan.		Sarawak.	
	"	"	"	"
Length of the head and body	1	6	1	6
— of the tail	1	3	1	3
— of the head	0	6	0	6 $\frac{1}{2}$
— of the ears	0	2 $\frac{1}{2}$	0	3
— of the tragus	0	1 $\frac{1}{2}$	0	2
— of the fore-arm	1	2	1	1 $\frac{1}{2}$
— of the longest finger	2	2	2	3
— of the fourth do.	1	6	1	7
— of the thumb	0	3	0	2 $\frac{1}{2}$
— of the tibia	0	5 $\frac{3}{4}$	0	6
— of the foot and claws	0	3 $\frac{1}{2}$	0	3
Expanse of wings	9	0	8	9

The above are the dimensions of two *adult* individuals from the localities mentioned; younger ones differ in having the *fingers* considerably shorter, and the *fore-arm* a little shorter.

5. SCOTOPHILUS CIRCUMDATUS? *Vespertilio circumdatus*, Temm.

I refer this species, with some doubt, to the *V. circumdatus* of M. Temminck. It agrees with it in most particulars, such as the form of the head and ears, and in having the wing-membranes extend only to the extremity of the tibiæ; but it differs in being somewhat smaller, in having the fur shortish and unicoloured; whereas that of *circumdatus* is, according to M. Temminck, long, and of two colours.

For the present, I prefer leaving it under the name above given, until a greater number of specimens can be examined.

I have to thank Mr. Dillwyn for the opportunity of describing the species mentioned in this paper, and for the great liberality with which he has allowed me to make any use of his specimens which might be desirable for the purpose of description.

2. ON TWO SPECIES OF ANT-BIRDS IN THE COLLECTION OF THE DERBY MUSEUM, AT LIVERPOOL. BY PHILIP LUTLEY SCLATER.

1. MYRMECIZA EXSUL, sp. nov.

Obscure brunnescenti-castanea, cauda concolore; capite toto undique et corpore infra ad medium ventrem nigris: ventre imo